

set forth therein, particularly the manner in which the bending moment is distributed as tension and compression in the upper and lower end caps, respectively.

David shows the basic concept of a hacksaw with a frame constructed in an I-beam configuration with upper and lower end caps. The frame in David, however, has a sharp bend towards the front end thereof. As a result, when the blade is tensioned so as to apply a rearwardly directed load to the front end of the frame, the bending moment created in the frame member is focused at that sharp bend. Thus, to withstand permanent setting (i.e., onset of plastic deformation) or fatiguing due to deflection, either the material must be built up at the sharp bend or the entire cross-section of the frame itself must be increased.

Wells '653 discloses a hacksaw with an arcuate frame member. However, the frame member is tubular. Although the bending moment will be distributed throughout the frame member in this construction, the majority of the loading on the frame member is distributed on the upper and lower portions thereof. The side portions of the frame members do not bear much loading in comparison to the upper and lower portions. Similar to the frame disclosed in David, the material of the frame member in Wells '653 must be increased to withstand failure due to permanent setting or fatiguing under deflection.

In the construction defined by claim 1, the use of an arcuate frame member has been combined with a frame member of I-beam configuration to arrive at a frame member construction that handles blade tension loading in a manner superior to the constructions disclosed in either David or Wells '653. Specifically, in the frame

member of the claim 1 hacksaw, the blade load creates a "bending moment which is distributed along said arcuate portion with said upper end cap along said arcuate portion being subject to tension and said lower end cap along said arcuate portion being subject to compression so that said upper and lower end caps cooperate to resist deflection of said frame member." By resisting deflection in such an improved manner, the frame member is less subject to permanent setting or fatiguing under deflection without the need for increasing the material (and weight) of the frame member. Also, a higher blade tension can be achieved without causing the onset of permanent deflection or fatiguing due to the increased resistance to deflection.

The invention of claim 1 is more than just taking the I-beam frame member of David and substituting the same into the arcuate frame member of Wells '653. To the contrary, the invention of claim 1 lies in the specific combination of these constructions such that they cooperate in a synergistic way not achieved by either construction alone. By using a frame member that is both arcuate and I-beam in configuration, the bending moment is distributed where it "counts the most", i.e., to the upper and lower end caps. More specifically, the bending movement is distributed as tension in the upper end cap along the member's arcuate portion as compression in the lower end cap along the frame member's arcuate portion.

It is submitted that, for these reasons set forth above, claim 1 patentably distinguishes over the art of record.

Claims 2-23 depend from claim 1 and are submitted to be patentable based on such dependency. Furthermore, with respect to at least claims 2-9, the Applicant submits that the Examiner has failed to establish the prima facie case of obviousness.

Specifically, the Examiner has failed to show by evidence that the subject matter of these dependent claims would be obvious. The only evidence in the record with respect on these dependent claims is a conclusory statement by the Examiner. The law is clear, however, that more than a conclusory statement on the record is needed to establish obviousness. Specifically, to prove obviousness, the Examiner must show by evidence in the art of record or in the knowledge available to those skilled in the art a motivation or suggestion with respect to each of these claims. This has not been done. Additionally, these claims are believed to be patentable because they each recite specific novel and non-obvious features that contribute to the overall performance of the hacksaw frame. Thus, these dependent claims are submitted be patentable of their own accord above and beyond claim 1.

Claims 1-9, 16, and 23 have been rejected for obviousness-type double patenting over U.S. Design Patent No. 403,224 in view of Hepworth. The Design Patent shows the hacksaw defined by claim 1, without the blade tensioning mechanism. An obviousness double-patenting rejection would be proper if the allowance of the present application improperly extends the right to exclude granted by the Design Patent. The Design Patent covers the ornamental appearance of hacksaw illustrated therein. In contrast, the claims of the present application, if issued, would cover any hacksaw that meets the language of the claims, either literally or under the doctrine of equivalents. While it is agreed that the claims of the present application cover the hacksaw disclosed in the Design Patent, the claimed design in the Design Patent would not necessarily cover all hacksaws that meet the claims of the present application. For example, hacksaws having a

substantially different ornamental appearance from that claimed in the Design Patent may meet the limitations of the present claims, but would not infringe the Design Patent. Accordingly, it is submitted that the allowance and issuance of the present claims would not improperly extend the right to exclude granted by the Design Patent and, therefore, withdrawal of the double-patenting rejection is respectfully requested.

As a final matter, the Applicant's representative has not received a paper from the Patent Office indicating whether the Rule 48 Amendment of August 10, 1999 adding Gregory Erisoty as an inventor was entered into the record. A responsive paper is respectfully requested.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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